



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,717	05/04/2001	Leonid N. Shekhter	6160-1P57	9644

26486 7590 09/23/2002
PERKINS, SMITH & COHEN LLP
ONE BEACON STREET
30TH FLOOR
BOSTON, MA 02108

EXAMINER

WYSZOMIERSKI, GEORGE P

ART UNIT	PAPER NUMBER
----------	--------------

1742

DATE MAILED: 09/23/2002

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

09/849,717

Applicant(s)

GOLDBERG ET AL. TGP

Examiner

George P Wyszomierski

Art Unit

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-49 is/are pending in the application.
- 4a) Of the above claim(s) 19,20 and 24-49 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner. *See page 2.*
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4. 6) ☐ Other: _____

Art Unit: 1742

1. Applicant's election without traverse of Group I, claims 1-18 and 21-23 in Paper No. 9 is acknowledged.
2. The specification is objected to because:
 - a) On page 9, lines 8, 12, 13, and 26 refer to drawing features 14, 26, 28 and 34, respectively. However, no such features appear on the drawings.
 - b) Table 4 on page 1 and Table 5 on page 12 both show results for examples 4-8, and both tables state a surface area in m^2/gm for these examples. However, the respective surface areas stated in the two tables are vastly different from each other. Clarification is required.
3. The drawings filed on August 17, 2001 are objected to because figures 8, 9, and 10 include characters less than 0.32 cm (1/8 inch) in height. Formal drawings are required in response to this Office Action. Applicant may no longer request that drawing changes be held in abeyance; see 37 CFR 1.85(a).
4. Claims 1-18 and 21-23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
 - a) In claim 1, line 12, the "and/or" phrasing renders the claim prima facie vague and indefinite.
 - b) Claim 9 contains an improper Markush group. The phrase "selected from the group consisting of" should introduce all such groups.

Art Unit: 1742

- c) In claims 18 and 23, "said sintered pellets" lacks proper antecedent basis.
- d) Claims dependent upon any of the above are likewise rejected under this statute.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-4, 8-12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gardner (U.S. Patent 2,516,863).

Gardner column 3, lines 49-75 discloses reacting tantalum pentoxide with aluminum to produce tantalum metal, and indicates that the reaction is highly exothermic. With regard to instant claim 10, clearly a suboxide or non-stoichiometric oxide will occur at some point in the Gardner process, even if not specifically recited therein. Thus, Gardner is held to fully disclose all aspects of the invention as presently claimed.

7. Claims 1-4, 6, 8, 9-12, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Gohin et al. (U.S. Patent 3,658,507).

Gohin discloses producing chromium powder by placing solid chromium trioxide and solid magnesium in a crucible, and heating to start a self sustaining reaction which reduces the trioxide to chromium powder. With regard to instant claim 10, clearly a suboxide or non-stoichiometric oxide will occur at some point in the Gohin process, even if not specifically recited

Art Unit: 1742

therein Column 2, lines 62-75 of Gohin indicate that the limitations of instant claims 11 and 15 are met by the Gohin disclosure. Thus, all aspects of the present claims are held to be fully met by Gohin et al.

8. Claims 1, 4, 6, 7, 8, 10, 11, 12, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Meyer et al. (U.S. Patent 4,045,216).

Column 1, line 50 to column 2, line 6 of Meyer discloses a process for reducing molybdenum trioxide to a lower molybdenum oxide by exothermic reaction, substantially in accord with the instant claims. Thus, Meyer et al. is held to fully meet the limitations of the invention as presently claimed.

9. Claims 1-5, 8, 9, 10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Higgins et al. (U.S. Patent 5,769,922).

Higgins column 4, lines 21-65 discloses a process for reacting solid vanadium pentoxide with solid aluminum so as to produce vanadium by means of an exothermic reaction, substantially in accord with the method as defined by the instant claims. Thus, the Higgins et al. disclosure is held to fully meet the limitations as presently claimed.

10. Claims 1, 2, 4, 6-12, 15-18, and 21-23 are rejected under 35 U.S.C. 102(a) as being anticipated by Loffelholz et al. (U.S. Patent 6,136,062).

Loffelholz discloses producing niobium or tantalum powder by exothermic reduction of the oxide of the desired metal(s) using molten magnesium as a reductant. At an intermediate stage, a suboxide is formed (see Loffelholz column 1, line 42). The powders thus produced are

Art Unit: 1742

sintered and made into capacitors; see Loffelholz column 8, lines 1-10 and Table 3. Thus, Loffelholz et al. fully discloses all aspects of the instant claims.

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner, Gohin et al., or Higgins.

The prior art does not specify the use of a vertical tube furnace as presently claimed. However, this limitation is seen as being largely an apparatus limitation on the claimed process, and such an apparatus limitation does not render an otherwise known process patentable. Compare *In re Sweeney* (72 USPQ 501). Thus, the claimed invention is held to be at best an obvious variant of what is disclosed by Gardner, Gohin et al., or Higgins.

13. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gohin et al., Meyer et al., or Loffelholz et al.

The prior art, discussed supra, does not disclose the particle size distribution as recited in the instant claims. However, the particle size obtained would appear to be a function of the materials used and the process steps applied to those materials. Because these factors may be the same in either the prior art or the claimed invention, the examiner's position is that the same particle size distribution is likely to result. Consequently, a prima facie case of obviousness is

Art Unit: 1742

established between the disclosures of Gohin et al., Meyer et al. or Loffelholz et al. and the presently claimed invention.

14. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gohin et al., Higgins, or Gardner.

The prior art does not specify the use of a stoichiometric amount of reducing agent compared to the oxide feed as presently claimed. The examiner's position is that one of skill in the chemical arts would be motivated to use an amount of reductant as close to stoichiometric as possible, because such an amount would be the smallest amount that could be used and still result in a complete reduction of the oxide. Thus, to perform the Gohin, Higgins, or Gardner processes under the conditions defined in the instant claim would have been considered an obvious expedient by one of ordinary skill in the art.

15. Claims 17, 18, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner in view of any of Loffelholz et al., Albrecht et al. (U.S. Patent 4,569,693), Behrens (U.S. Patent 4,954,169), or Rerat (U.S. Patent 5,082,491).

The Gardner patent does not disclose the steps of sintering and forming into capacitors as recited in the instant claims. Each of the secondary references indicate that it is commonly known in the art that tantalum powders (as produced by Gardner) may be subjected to sintering and formed into capacitors. Consequently, the combined teachings of Gardner with any of Loffelholz, Albrecht, Behrens, or Rerat would have taught the claimed invention to a person of ordinary skill in the art.

Art Unit: 1742

16. The remainder of the art cited on the enclosed PTO-892 and 1449 forms is of interest.

This art is held to be no more relevant to the claimed invention than the art as applied in the rejections, *supra*. The Information Disclosure Statement filed 2/19/02 (Paper no. 6) did not include a PTO-1449 form; thus the references cited therein are listed on the PTO-892 form.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Wyszomierski whose telephone number is (703) 308-2531. The examiner can normally be reached on Monday thru Friday from 8:00 a.m. to 4:30 p.m. Eastern time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King, can be reached on (703) 308-1146. The fax phone number for this Group is (703) 872-9310. The Right fax number for this examiner is (703) 872-9039. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



GEORGE WYSZOMIERSKI
PRIMARY EXAMINER

GPW

September 19, 2002